U.S. FOREST SERVICE

NORTHERN REGION

DIVISION OF STATE AND PRIVATE FORESTRY

INSECT AND DISEASE REPORT

Report No. 71-44

5230
December 1971

FOREST INSECT AND DISEASE EVALUATION OF THE CHARLES WATERS MEMORIAL CAMPGROUND STEVENSVILLE DISTRICT, BITTERROOT NATIONAL FOREST, MONTANA

by

W. M. Ciesla and R. E. Williams[1/]

The Charles Waters Memorial Campground is located in the Bass Creek drainage, Stevensville District, Bitterroot National Forest, in a nearly pure stand of ponderosa pine, 35 to 70 years old. The close proximity of the campground to Missoula and Hamilton makes it extremely popular with campers. In addition, trails leading from the campground provide access to the Selway-Bitterroot Wilderness. Future plans for expanding the campground include an interpretive program designed to display multiple use activities on the Forest.

Insects and diseases have caused some problems in the campground in recent years and resource managers have expressed concern about the impact of insect and disease activity on future expansion and development. An evaluation of existing problems was made December 2, 1971. Terry Solberg of the Stevensville District assisted the authors with the field observations.

1/ Respectively Supervisory Entomologist and Plant Pathologist, Forest Insect and Disease Branch.

The following is a resume of insect and disease conditions:

INSECTS

PINE BUTTERFLY, Neophasia menapia (F. & F.).--The pine butterfly which is increasing on the Bitterroot National Forest (Bousfield and Ciesla, 1971)2/, caused noticeable defoliation in the campground in 1971. Intensity of damage varied from light in the developed area to complete stripping of all but the current year's foliage on trees surrounding the campground. Egg mass surveys currently underway indicate that increased damage by this defoliator may be expected in 1972. Egg masses are abundant on pine foliage throughout the stand.

PINE NEEDLE SCALE, Phenacaspis pinifolae (Fitch).--Localized infestations of this rather common scale occur on ponderosa pine foliage in the campground area. This insect is often associated with excess dust which may result from heavy campground use during the summer months. Scale infestations are not excessive, however, and can be classified as "normal" or endemic.

BARK BEETLES.--A complex of pine bark beetles are causing localized group kills throughout the ponderosa pine stand. The primary bark beetle is the pine engraver, Ips pini (Say) which is causing top kill followed by subsequent invasion of the lower bole by western pine beetle, Dendroctonus brevicomis Lec. Bark beetle infestation is associated with an abundance of thinning slash and a general loss of vigor due to chronic Elytroderma needle blight infection. Group kills in low elevation pine stands due to pine engraver were common throughout the west slopes of the Bitterroot drainage in 1971 (Lood, 1971)3/. Infestation levels can be expected to increase as the pine butterfly infestation intensifies and weakens trees.

DISEASES

ELYTRODERMA NEEDLE BLIGHT, Elytroderma deformans (Weir) Darker.--Elytroderma needle blight was found on most ponderosa pines growing on lower, wetter sites, particularly in the campground area. Severity of infection varied.

2/ Bousfield, W. E. and W. M. Ciesla. 1971. Evaluation of a pine butterfly infestation in the Bitter Root Valley --1971. USDA, Forest Service, Northern Region, Division of State and Private Forestry, Insect and Disease Report No. 71-32.

3/ Lood, R. C. 1971. Forest Insect and Disease Detection Survey of the Bitterroot National Forest, Montana and Idaho. USDA, Forest Service, Northern Region, Division of State and Private Forestry, Insect and Disease Report No. 71-27.

from light to moderately heavy. Light infections were vausing little damage, while moderately heavy infections were causing severe defoliation and brooming. Mortality was observed in some pole-size trees and saplings, but was mostly due to the combined impact of Elytroderma and pine butterfly.

Elytroderma invades twigs and buds as well as needles, survives perennially in the former, and spreads vegetatively into needle primordia. Thus, once a damaging wave of infection has occurred, the fungus is not dependent on annually recurring periods of weather favorable for spore germination and host invasion in order to continue causing damage for many years.

Although little direct tree killing will result from moderately heavy Elytroderma infection the combined effect of continued Elytroderma infection plus pine butterfly activity, which is expected to increase next year, will probably result in additional direct mortality. Long-range indirect effects from present infestations could result from infection of weakened trees by root rots and/or invasion by bark beetles. Therefore, it is not advisable to spend additional dollars for management of the stand at the present time.

DISCUSSION AND RECOMMENDATIONS

Control measures for Elytroderma are restricted to maintaining a vigorous stand, and although several insecticides are effective in controlling pine butterfly, none are currently registered for that purpose. Therefore, no direct control measures for the current problems are available to the land manager.

For the part of the stand that has already been thinned we can only recommend that no direct control action be taken. For the campground area proper, it would be highly advisable to gradually convert the stand to one of mixed species composition. Future thinnings in non-campground areas should also be designed to favor a mixed species composition wherever possible.

In order to keep the public better informed it is suggested that informational signs be placed in the campground as part of the overall interpretive program explaining the insect and disease problems of the area. Pest control funds are limited to direct control projects and are not available for building signs. However, insect and disease specialists are available to provide technical assistance in developing informational signs for this purpose.